What is claimed is:

1. Apparatus for formation of a composite video image, the apparatus comprising:

a foreground image suppression module that receives a foreground video image signal and, for at least one selected pixel in the foreground image, provides a foreground suppression key, indicating at least one key color that is to be suppressed for the selected pixel, and provides a foreground α-key, indicating a relative weight α that is to be applied to the selected pixel value after application of the foreground suppression key, where α is a selected real number lying in a range $0 \leq \alpha \leq 1$;

a foreground suppression module that receives the foreground suppression key and the foreground image signal and generates a suppressed foreground image signal SuFG, in which the at least one key color is suppressed, and multiplies the suppressed foreground image signal by α, for the selected pixel, to form a first signal component $\alpha \cdot$SuFG;

a background image module that receives a background video image signal BG and multiplies the background image signal by $1-\alpha'$ for the selected pixel, where α' is a selected real number lying in a range $0 \leq \alpha' \leq 1$; and

a sum module that forms a sum signal $\alpha \cdot \text{SuFG} + (1-\alpha') \cdot \text{BG}$ for the selected pixel.

2. The apparatus of claim 1, wherein said selected numbers α and α' are chosen to be equal.

3. The apparatus of claim 1, wherein at least one of said foreground image suppression module and said foreground suppression module determines a minimum value α_{min} for said α value, determines a maximum value α_{max} for said α value, with $0 \leq \alpha_{min} \leq \alpha \leq \alpha_{max} \leq 1$, and redefines said α-key value to provide a modified value, $\alpha''' = \alpha 1$ or $\alpha''' = \alpha 2$, according to at least one of the following constraints:

$\alpha 1 = f(\alpha) = 0.5\ \{|\alpha - \alpha_{min}| - |\alpha - \alpha_{max}| + (\alpha_{min} + \alpha_{max})\}$,.

$\alpha 2 = g(\alpha 1) = (\alpha 1 - \alpha_{min})/(\alpha_{max} - \alpha_{min})$.

4. Apparatus for formation of a composite video image, the apparatus comprising:

a foreground image suppression module that receives a foreground video image signal and, for at least one selected pixel in the foreground image, provides a foreground suppression key, indicating at least one key color that is to be suppressed for the selected pixel, provides a foreground α-key, indicating a relative weight α that is to be applied to the selected pixel value after application of the foreground suppression key, where α is a selected real number lying in a range $0 \leq \alpha \leq 1$, and generates a suppressed foreground image signal SuFG, in which the at least one key color is suppressed; and

an alpha mixer that receives the suppressed foreground image signal SuFG, receives a background video image signal BG, provides a selected relative weight α' that is to be applied to the selected pixel value for the background image, and forms a sum image signal $\alpha \cdot SuFG + (1-\alpha') \cdot BG$ for the selected pixel, where α' is a selected real number lying in a range $0 \leq \alpha' \leq 1$.

5. The apparatus of claim 4, wherein said selected numbers α and α' are chosen to be equal.

6. The apparatus of claim 4, wherein said foreground image suppression module determines a minimum value α_{min} for said α-key value, determines a maximum value α_{max} for said α value, with $0 \leq \alpha_{min} \leq \alpha \leq \alpha_{max} \leq 1$, and redefines said α value to provide a modified value, $\alpha''' = \alpha 1$ or $\alpha''' = \alpha 2$, according to at least one of the following constraints:

$\alpha 1 = f(\alpha) = 0.5\ \{|\alpha - \alpha_{min}| - |\alpha - \alpha_{max}| + (\alpha_{min} + \alpha_{max})\}$,

$\alpha 2 = g(\alpha 1) = (\alpha 1 - \alpha_{min})/(\alpha_{max} - \alpha_{min})$.

7. Apparatus for formation of a composite video image, the apparatus comprising:

a shadow control module that receives a foreground video image signal and generates a shadow key that identifies at least one selected pixel for which foreground shadowing is activated;

a shadow generation module that receives the foreground image signal and the shadow key and generates and issues a foreground shadow signal FGSh, in which each selected pixel appears in a shadow format; and

a shadowing module that receives the foreground shadow signal and a background video image signal BG and generates a modified background image signal, in which a foreground shadow is impressed on each selected pixel of the background image.

8. The apparatus of claim 7, wherein said shadowing module forms a sum signal $\beta \cdot FGSh + (1-\beta') \cdot BG$, as said modified background image signal, where β and β' are selected real numbers lying in a range [0,1].

9. The apparatus of claim 8, wherein said selected numbers β and β' are chosen to be equal.

10. Apparatus for formation of a composite video image, the apparatus comprising:

a foreground image suppression/shadow module that receives a foreground video image signal and, for at least a first selected pixel in the foreground image, provides a foreground suppression key, indicating at least one key color that is to be suppressed for the selected pixel, provides a foreground α-key, indicating a relative weight α that is to be applied to the selected pixel value after application of the foreground suppression key, where α is a selected real number lying in a range $0 \leq \alpha \leq 1$, and generates a suppressed foreground image signal SuFG, in which the at least one key color is suppressed;

a shadow control module that receives the foreground image signal and generates a shadow key that identifies at least a second selected pixel for which foreground shadowing is activated;

a shadow generation module that receives the foreground image signal, the shadow key and a background video image signal and generates and issues a foreground shadow signal and a modified background image signal, MBG, in which each selected pixel includes an effect of shadowing of a background image by a foreground image; and

an alpha mixer that receives the suppressed foreground image signal SuFG, receives the foreground shadow key, receives the foreground shadow signal, receives the modified background image signal MBG, provides a first relative weight α and a second relative weight α', where each of α and α' is a selected real number lying in a range [0,1], that are to be applied to the selected pixel values for the suppressed foreground image signal and for the background image signal, and forms a sum image signal $\alpha \cdot SuFG + (1-\alpha') \cdot MBG$ for the first and second selected pixels in which a foreground shadow is impressed on the second selected pixel of the background image.

11. The apparatus of claim 10, wherein said selected numbers α and α' are chosen to be equal.

12. The apparatus of claim 10, wherein said first selected pixel and said second selected pixel are chosen to be different pixels.

13. The apparatus of claim 10, wherein at least one of said foreground image suppression module and said alpha mixer determines a minimum value α_{min} for said α value, determines a maximum value α_{max} for said α value, with $0 \leq \alpha_{min} \leq \alpha \leq \alpha_{max} \leq 1$, and redefines said α value to provide a modified value, $\alpha''' = \alpha 1$ or $\alpha''' = \alpha 2$, according to at least one of the following constraints:

$$\alpha 1 = f(\alpha) = 0.5 \{ |\alpha - \alpha_{min}| - |\alpha - \alpha_{max}| + (\alpha_{min} + \alpha_{max}) \},$$

$$\alpha 2 = g(\alpha 1) = (\alpha 1 - \alpha_{min})/(\alpha_{max} - \alpha_{min}).$$

14. A method for formation of a composite video image, the method comprising:

receiving a foreground video image signal and, for at least one selected pixel in the foreground image, providing a foreground suppression key, indicating at least one key color that is to be suppressed for the selected pixel, and providing a foreground α-key, indicating a relative weight α that is to be applied to the selected pixel value after application of the foreground suppression key, where α is a selected real number lying in a range $0 \leq \alpha \leq 1$;

receiving the foreground suppression key and the foreground image signal and generating a suppressed foreground image signal SuFG, in which the at least one key color is suppressed, and multiplying the suppressed foreground image signal by α, for the selected pixel, to form a first signal component $\alpha \cdot$SuFG;

receiving a background video image signal and multiplying the background image signal BG by $1-\alpha'$ for the selected pixel, where α' is a selected real number lying in a range $0 \leq \alpha' \leq 1$; and

forming a sum signal, $\alpha \cdot$SuFG + $(1-\alpha') \cdot$BG, for the selected pixel.

15. The method of claim 14, further comprising choosing said selected numbers α and α' to be equal.

16. The method of claim 14, further comprising providing a minimum value α_{min} for said α value, providing a maximum value α_{max} for said α value, with $0 \leq \alpha_{min} \leq \alpha \leq \alpha_{max} \leq 1$, and redefining said α value to provide a modified value, $\alpha''' = \alpha 1$ or $\alpha''' = \alpha 2$, according to at least one of the following constraints:

$$\alpha 1 = f(\alpha) = 0.5 \{ |\alpha - \alpha_{min}| - |\alpha - \alpha_{max}| + (\alpha_{min} + \alpha_{max}) \},$$

$$\alpha 2 = g(\alpha 1) = (\alpha 1 - \alpha_{min})/(\alpha_{max} - \alpha_{min}).$$

17. A method for formation of a composite video image, the method comprising:

receiving a foreground video image signal and, for at least one selected pixel in the foreground image, providing a foreground suppression key, indicating at least one key color that is to be suppressed for the selected pixel, providing a foreground α-key, indicating a relative weight α that is to be applied to the selected pixel value after application of the foreground suppression key, where α is a selected real number lying in a range $0 \leq \alpha \leq 1$, and generating a suppressed foreground image signal SuFG, in which the at least one key color is suppressed; and

receiving the suppressed foreground image signal SuFG, receiving a background video image signal, providing a relative weight α' that is to be applied to the selected pixel value for the background image, and forming a sum image signal $\alpha \cdot SFG + (1-\alpha') \cdot BG$ for the selected pixel, where α' is a selected real number lying in a range $0 \leq \alpha' \leq 1$.

18. The method of claim 17, further comprising choosing said selected numbers α and α' to be equal.

19. The method of claim 17, further comprising providing a minimum value α_{min} for said α value, providing a maximum value α_{max} for said α value, with $0 \leq \alpha_{min} \leq \alpha \leq \alpha_{max} \leq 1$, and redefining said α value to provide a modified value, $\alpha''' = \alpha 1$ or $\alpha''' = \alpha 2$, according to at least one of the following constraints:

$$\alpha 1 = f(\alpha) = 0.5 \{ |\alpha - \alpha_{min}| - |\alpha - \alpha_{max}| + (\alpha_{min} + \alpha_{max}) \},$$

$$\alpha 2 = g(\alpha 1) = (\alpha 1 - \alpha_{min})/(\alpha_{max} - \alpha_{min}).$$

20. A method for formation of a composite video image, the method comprising:

receiving a foreground video image signal and generating a shadow key that identifies at least one selected pixel for which foreground shadowing is activated;

receiving the foreground image signal and the shadow key and generating and issuing a foreground shadow signal, FGSh, in which each selected pixel appears in a shadow format; and

receiving the foreground shadow signal and a background video image signal and generating a modified background image signal, MBG, in which a foreground shadow is impressed on each selected pixel of the background image.

21. The method of claim 20, wherein said process of generating said modified background image signal comprises forming a sum signal $\beta \cdot FGSh + (1-\beta') \cdot BG$, where β and β' are selected real numbers lying in a range [0,1].

22. The method of claim 21, further comprising choosing said selected numbers β and β' to be equal.

23. A method for formation of a composite video image, the method comprising:

receiving a foreground video image signal and, for at least a first selected pixel in the foreground image, providing a foreground suppression key, indicating at least one key color that is to be suppressed for the selected pixel, providing a foreground α-key, indicating a relative weight α that is to be applied to the selected pixel value after application of the foreground suppression key, where α is a selected real number lying in a range $0 \leq \alpha \leq 1$, and generating a suppressed foreground image signal SuFG, in which the at least one key color is suppressed;

receiving the foreground image signal and generating a shadow key that identifies at least a second selected pixel for which foreground shadowing is activated;

receiving the foreground image signal and the shadow key and a background video image signal and generating and issuing a foreground shadow signal and a modified background image signal, MBG, in which

each selected pixel includes an effect of shadowing of a background image by a foreground image; and

receiving the suppressed foreground image signal SuFG, receiving the foreground shadow key, receiving the foreground shadow signal, receiving the modified background image signal MBG, providing a first relative weight α and a second relative weight α', where each of a and a' is a selected real number lying in a range [0,1], that are to be applied to the selected pixel values for the suppressed foreground image signal and for the modified background image signal, and forming a sum image signal $\alpha \cdot SuFG + (1-\alpha') \cdot MBG$ for the first and second selected pixels in which a foreground shadow is impressed on the second selected pixel of the background image.

24. The method of claim 23, further comprising choosing said first selected pixel and said second selected pixel to be the same pixel.

25. The method of claim 23, further comprising choosing said first selected pixel and said second selected pixel to be different pixels.

26. The method of claim 23, further comprising providing a minimum value α_{min} for said α value, providing a maximum value α_{max} for said α value, with $0 \leq \alpha_{min} \leq \alpha \leq \alpha_{max} \leq 1$, and redefining said α value to provide a modified value, $\alpha''' = \alpha 1$ or $\alpha''' = \alpha 2$, according to at least one of the following constraints:

$$\alpha 1 = f(\alpha) = 0.5 \{|\alpha - \alpha_{min}| - |\alpha - \alpha_{max}| + (\alpha_{min} + \alpha_{max})\},$$

$$\alpha 2 = g(\alpha 1) = (\alpha 1 - \alpha_{min})/(\alpha_{max} - \alpha_{min}).$$

27. An article of manufacture comprising:

a computer usable medium having computer readable code means embodied therein for producing a composite video image including portions of at least one foreground image and of at least one background image;

computer readable program code means for receiving a foreground video image signal and, for at least a first selected pixel in the foreground image, providing a foreground suppression key, indicating at least one key color that is to be suppressed for the selected pixel, providing a foreground α-key, indicating a relative weight α that is to be applied to the selected pixel value after application of the foreground suppression key, where α is a selected real number lying in a range $0 \leq \alpha \leq 1$, and generating a suppressed foreground image signal SuFG, in which the at least one key color is suppressed;

computer readable program code means for receiving the foreground suppression key and the foreground image signal and generating a suppressed foreground image signal SuFG, in which the at least one key color is suppressed, and multiplying the suppressed foreground image signal by α, for the selected pixel, to form a first signal component $\alpha \cdot$SuFG;

computer readable program code means for receiving a background video image signal and multiplying the background image signal BG by $1-\alpha'$ for the selected pixel, where α' is a selected real number lying in a range [0,1]; and

computer readable program code means for forming a sum signal, $\alpha \cdot \text{SuFG} + (1-\alpha') \cdot \text{BG}$, for the selected pixel.

28. The article of claim 27, further comprising computer readable program code means for providing a minimum value α_{min} for said α value, providing a maximum value α_{max} for said α value, with $0 \leq \alpha_{min} \leq \alpha \leq \alpha_{max} \leq 1$, and redefining said α value to provide a modified value, $\alpha''' = \alpha 1$ or $\alpha''' = \alpha 2$, according to at least one of the following constraints:

$$\alpha 1 = f(\alpha) = 0.5 \{|\alpha - \alpha_{min}| - |\alpha - \alpha_{max}| + (\alpha_{min} + \alpha_{max})\},$$

$$\alpha 2 = g(\alpha 1) = (\alpha 1 - \alpha_{min})/(\alpha_{max} - \alpha_{min}).$$

29. An article of manufacture comprising:

a computer usable medium having computer readable code means embodied therein for producing a composite video image including portions of at least one foreground image and of at least one background image;

computer readable program code means for receiving a foreground video image signal and, for at least one selected pixel in the foreground image, providing a foreground suppression key, indicating at least one key color that is to be suppressed for the selected pixel, providing a foreground α-key, indicating a relative weight α that is to be applied to the selected pixel value after application of the foreground suppression key, where α is a selected real number lying in a range $0 \leq \alpha \leq 1$, and generating a suppressed foreground image signal SuFG, in which the at least one key color is suppressed; and

computer readable program code means for receiving the suppressed foreground image signal SuFG, providing a relative weight α' that is to be applied to the selected pixel value for the suppressed foreground image signal, receiving a background video image signal, and forming a sum image signal $\alpha \cdot SuFG + (1-\alpha') \cdot BG$ for the selected pixel, where α' is a selected real number lying in a range [0,1].

30. The article of claim 29, further comprising computer readable program code means for providing a minimum value α_{min} for said α value, providing a maximum value α_{max} for said α value, with $0 \leq \alpha_{min} \leq \alpha \leq \alpha_{max} \leq 1$, and redefining said α value to provide a modified value, $\alpha''' = \alpha 1$ or $\alpha''' = \alpha 2$, according to at least one of the following constraints:

$$\alpha 1 = f(\alpha) = 0.5 \{|\alpha - \alpha_{min}| - |\alpha - \alpha_{max}| + (\alpha_{min} + \alpha_{max})\},$$

$$\alpha 2 = g(\alpha 1) = (\alpha 1 - \alpha_{min})/(\alpha_{max} - \alpha_{min}).$$

31. An article of manufacture comprising:

a computer usable medium having computer readable code means embodied therein for producing a composite video image including

portions of at least one foreground image and of at least one background image;

computer readable program code means for receiving a foreground video image signal FG and generates a shadow key that identifies at least one selected pixel for which foreground shadowing is activated;

computer readable program code means for receiving the foreground image signal and the shadow key and generating and issues a foreground shadow signal FGSh, in which each selected pixel appears in a shadow format; and

computer readable program code means for receiving the foreground shadow signal and a background video image signal BG and generating a modified background image signal, in which a foreground shadow is impressed on each selected pixel of the background image.

32. The article of claim 31, further comprising computer readable program code means for forming a sum signal $\beta \cdot FGSh + (1-\beta') \cdot BG$ as said modified background image signal, where β and β' are selected real numbers lying in a range [0,1].

33. An article of manufacture comprising:

a computer usable medium having computer readable code means embodied therein for producing a composite video image including portions of at least one foreground image and of at least one background image;

computer readable program code means for receiving a foreground video image signal and, for at least a first selected pixel in the foreground image, providing a foreground suppression key, indicating at least one key color that is to be suppressed for the selected pixel, providing a foreground α-key, indicating a relative weight α that is to be applied to the selected pixel value after application of the foreground suppression key, where α is a selected real number lying in a range $0 \leq \alpha \leq 1$, and generating a suppressed foreground image signal SuFG, in which the at least one key color is suppressed;

computer readable program code means for receiving the foreground image signal and generating a shadow key that identifies at least a second selected pixel for which foreground shadowing is activated;

computer readable program code means for receiving the foreground image signal and the shadow key and generating and issuing a foreground shadow signal, in which each selected pixel appears in a shadow format; and

computer readable program code means for receiving the suppressed foreground image signal SuFG, receiving the foreground shadow key, receiving the foreground shadow signal, receiving a background video image signal BG, providing a first relative weight α and a second relative weight α', where each of α and α' is a selected real number lying in a range [0,1], that are to be applied to the selected pixel values for the suppressed foreground image signal and for the background image signal, and forming a sum image signal $\alpha \cdot SuFG + (1-\alpha') \cdot BG$ for the first and second selected pixels in which a foreground shadow is impressed on the second selected pixel of the background image.

34. The article of claim 33, further comprising computer readable program code means for choosing said first selected pixel and said second selected pixel to be the same pixel.

35. The article of claim 33, further comprising computer readable program code means for choosing said first selected pixel and said second selected pixel to be different pixels.

36. The article of claim 33, further comprising computer readable program code means for providing a minimum value α_{min} for said α value, providing a maximum value α_{max} for said α value, with $0 \leq \alpha_{min} \leq \alpha \leq \alpha_{max} \leq 1$, and redefining said α value to provide a modified value, $\alpha''' = \alpha 1$ or $\alpha''' = \alpha 2$, according to at least one of the following constraints:

$$\alpha 1 = f(\alpha) = 0.5\ \{|\alpha - \alpha_{min}| - |\alpha - \alpha_{max}| + (\alpha_{min} + \alpha_{max})\},$$
$$\alpha 2 = g(\alpha 1) = (\alpha 1 - \alpha_{min})/(\alpha_{max} - \alpha_{min}).$$